

sensor **1540A**, a gyro sensor **1540B**, a barometric pressure sensor **1540C**, a magnetic sensor **1540D**, an acceleration sensor **1540E**, a grip sensor **1540F**, a proximity sensor **1540G**, a color sensor **1540H** (e.g., red, green, blue (RGB) sensor), a biometric sensor **1540I**, a temperature/humidity sensor **1540J**, an illumination sensor **1540K**, or an ultraviolet (UV) sensor **1540M**. Additionally or alternatively, the sensor module **1540** may further include, for example, an e-nose sensor, an electromyography (EMG) sensor, an electroencephalogram (EEO) sensor, an electrocardiogram (ECG) sensor, an infrared (IR) sensor, an iris sensor, and/or a fingerprint sensor, and the like. The sensor module **1540** may further include a control circuit for controlling at least one or more sensors included therein. According to various embodiments of the present disclosure, the electronic device **1501** may further include a processor configured to control the sensor module **1540**, as part of or independent from the processor **1510**. While the processor **1510** is in a sleep state, the electronic device **1501** may control the sensor module **1540**.

[0161] The input device **1550** includes, for example, a touch panel **1552**, a (digital) pen sensor **1554**, a key **1556**, and an ultrasonic input device **1558**. The touch panel **1552** may use at least one of, for example, a capacitive type, a resistive type, an infrared type, or an ultrasonic type. Also, the touch panel **1552** may further include a control circuit. The touch panel **1552** may further include a tactile layer and may provide a tactile reaction to a user.

[0162] The (digital) pen sensor **1554** may be, for example, part of the touch panel **1552** or may include a separate sheet for recognition. The key **1556** may include, for example, a physical button, an optical key, or a keypad. The ultrasonic input device **1558** may allow the electronic device **1501** to detect a sound wave using a microphone **1588**, and to verify data through an input tool generating an ultrasonic signal.

[0163] The display **1560** (e.g., a display **1460** of FIG. **14**) includes, for example, a panel **1562**, a hologram device **1564**, and a projector **1566**. The panel **1562** may include the same or similar configuration to the display **1460**. The panel **1562** may be implemented to be, for example, flexible, transparent, or wearable. The panel **1562** and the touch panel **1552** may be integrated into one module. The hologram device **1564** may show a stereoscopic image in a space using interference of light. The projector **1566** may project light onto a screen to display an image. The screen may be positioned, for example, inside or outside the electronic device **1501**. According to an embodiment of the present disclosure, the display **1560** may further include a control circuit for controlling the panel **1562**, the hologram device **1564**, or the projector **1566**.

[0164] The interface **1570** includes, for example, an HDMI **1572**, a USB **1574**, an optical interface **1576**, or a D-subminiature **1578**. The interface **1570** may be included in, for example, the communication interface **1470** shown in FIG. **14**. Additionally or alternatively, the interface **1570** may include, for example, a mobile high definition link (MHL) interface, an SD card/MMC interface, or an infrared data association (IrDA) standard interface.

[0165] The audio module **1580** may convert a sound and an electric signal in dual directions. At least part of components of the audio module **1580** may be included in, for example, the input and output interface **1450** (or a user interface) shown in FIG. **14**. The audio module **1580** may

process sound information input or output through, for example, a speaker **1582**, a receiver **1584**, an earphone **1586**, or the microphone **1588**.

[0166] The camera module **1591** may capture a still image and a moving image. According to an embodiment of the present disclosure, the camera module **1591** may include one or more image sensors (e.g., a front sensor or a rear sensor), a lens, an ISP, or a flash (e.g., an LED or a xenon lamp).

[0167] The power management module **1595** may manage, for example, power of the electronic device **1501**. According to an embodiment of the present disclosure, the power management module **1595** may include a power management integrated circuit (PMIC), a charger IC, or a battery gauge. The PMIC may have a wired charging method and/or a wireless charging method. The wireless charging method may include, for example, a magnetic resonance method, a magnetic induction method, or an electromagnetic method, and the like. An additional circuit for wireless charging, for example, a coil loop, a resonance circuit, or a rectifier, and the like may be further provided. The battery gauge may measure, for example, the remaining capacity of the battery **1596** and voltage, current, or temperature thereof while the battery **1596** is charged. The battery **1596** may include, for example, a rechargeable battery or a solar battery.

[0168] The indicator **1597** may display a specific state of the electronic device **1501** or part (e.g., the processor **1510**) thereof, for example, a booting state, a message state, or a charging state. The motor **1598** may convert an electric signal into mechanical vibration and may generate a vibration or a haptic effect. Though not shown, the electronic device **1501** may include a processing unit (e.g., a GPU) for supporting a mobile TV. The processing unit for supporting the mobile TV may process media data according to standards, for example, a digital multimedia broadcasting (DMB) standard, a digital video broadcasting (DVB) standard, a mediaFlo standard, and the like.

[0169] Each of the above-described elements of the electronic device according to various embodiments of the present disclosure may be configured with one or more components, and names of the corresponding elements may be changed according to the type of the electronic device. The electronic device may include at least one of the above-described elements, some elements may be omitted from the electronic device, or other additional elements may be further included in the electronic device. Also, some of the elements of the electronic device may be combined with each other to form one entity, thereby making it possible to perform the functions of the corresponding elements in the same manner as before the combination.

[0170] FIG. **16** is a block diagram illustrating a configuration of a program module, according to an embodiment of the present disclosure.

[0171] A program module **1610** (e.g., the program **1440** of FIG. **14**) may include an OS for controlling resources associated with an electronic device (e.g., the electronic device **1401** of FIG. **14**) and/or various applications (e.g., the application program **1447** of FIG. **14**) which are executed on the OS.

[0172] The program module **1610** includes a kernel **1620**, a middleware **1630**, an API **1660**, and/or an application **1670**. At least part of the program module **1610** may be preloaded on the electronic device, or may be downloaded